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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,726	12/24/2003	Toshinori Tanaka	Q79154	8314

23373 7590 10/20/2005

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EXAMINER

LUM VANNUCCI, LEE SIN YEE

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/743,726

Applicant(s)

TANAKA ET AL.

Examiner

Lee Lum

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) all is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. An Amendment was filed 8/17/05 in which Claim 8 was also added.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

A. **Claims 1-4 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al 6447271 in view of Appleyard et al 6491131.

Re **Claims 1, 2, 4 and 8**, Ojima discloses an electro-hydraulic power steering apparatus* comprising

Motor 1 (fig 1) having rotating shaft (unidentified) and bearings 5,
Hydraulic pump (fig 15) disposed at one end of the shaft, and driven by the motor (c9, In 15-22),

Control circuit (unidentified, c5, In 46-49) for the motor disposed between the motor and pump.

The reference does not disclose elastic bodies supporting the bearings, while Appleyard shows, in fig 1,

First elastic body 16 for supporting first bearing 9, and,

Separate second elastic body 15 for pressing the bearing in an axial direction.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include the elastic bodies, as shown in Appleyard, to ensure a secure fit between the bearings, shaft and casing, thus maximize proper operation of the motor, and minimize wear due to inexact machining. This arrangement is *extremely well-known* for these objectives.

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* This "apparatus" is not described in the body of the claim to differentiate it from other mechanisms having a motor-driven pump. Therefore, this description is given little patentable weight.

Re Claim 3, Ojima does not disclose a second bearing larger than the first, while Appleyard shows this arrangement** with second bearing 10 larger than first bearing 9. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this configuration, as shown in Appleyard, for the particular application, thus ensure proper operation of the motor components, as is very well-known.

Re Claim 4, Ojima further discloses the bearing(s) as including an outer ring, this element being unidentified in fig 15, but is the outer race of bearing 13.

However, Ojima does not disclose a receiving portion containing the first bearing, while Appleyard shows this arrangement** with

Receiving portion 7 accommodating the first bearing, with (an unidentified) gap between the two.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this arrangement, as shown in Appleyard, to accommodate the bearings and elastic bodies in a secure fit, thus maximizing proper operation of the motor.

** While these arrangements do not specify an adjacent pump, it would have been obvious that the bearing-and-elastic-body configuration is also viable in applications requiring a pump, such as Ojima. It is *extremely well-known* that many structures with moving parts, such as motors, require bearings for certain components, as well as specific positioning of elastic/resilient bodies between the bearings for proper operation, and to maximize component longevity.

B. **Claims 5 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima in view of Appleyard, and in further view of Watanabe et al 6561306.

The previous references do not disclose the second elastic body as a disc spring, while Watanabe shows this type of elastic body 23 (c8, ln 18-19). While Appleyard's O-ring is functionally equivalent, it would have been obvious to one with ordinary skill in the art at the time the invention was made to include this alternate type, as shown in Watanabe, for providing a different type of elasticity, and physical form, for the particular application. It is clear that a particular shape of an elastic body is insignificant so long as it functions in a specific application as designed.

C. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima in view of Appleyard and Watanabe, and in further view of Eda et al 6044723.

The previous references do not disclose an elastic body pressing a disc spring in an axial direction, while Eda shows this configuration with

Second elastic body 321 including body 322 (functionally equivalent to a disc spring), both axially pressing the bearing.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this arrangement, as shown in Eda, to further ensure proper axial pressure on, and fit between, the bearing, thus maximizing proper operation of the moving components, as well as longevity.

3. **RESPONSE TO REMARKS:** Moot in light of amendments.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

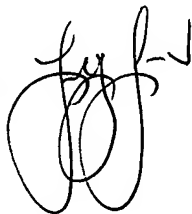
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

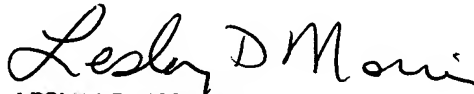
5. Communication with the Examiner/USPTO

Any inquiry concerning this communication, or others, should be directed to Ms. Lum at 571 272-6649, M-F, 9-5. If she cannot be reached, her supervisor, Ms. Lesley Morris, may be reached at 571 272-6651. Our central fax number is 571 273 8300..

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) System. For unpublished applications - private PAIR only. For published applications - private or public PAIR. For more information re PAIR - <http://pair-direct.uspto.gov>. Questions re private PAIR - contact the Electronic Business Center (EBC) at 866 217-9197.

Ms. Lee S. Lum-Vannucci
Examiner
10/13/05




LESLEY D. MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600